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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,368	05/25/2001	Leonard S. Hand	6169-202	3711

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EXAMINER	
ZHOU, TING	
ART UNIT	**PAPER NUMBER**
2173	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/865,368	HAND ET AL.	
	Examiner	Art Unit	
	Ting Zhou	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,7-11,13-21,23,24,26-28,30-34,36-44 and 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5,7-11,13-21,23-24,26-28,30-34,36-44 and 46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Request for Continued Examination (RCE) filed on 4 October 2004 under 37 CFR 1.53(d) based on parent Application No. 09/865,368 is acceptable and a RCE has been established. An action on the RCE follows.

2. The amendments filed on 3 August 2004, submitted with the filing of the RCE have been received and entered. Claims 1, 3-5, 7-11, 13-21, 23-24, 26-28, 30-34, 36-44 and 46 as amended are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 5, 7-11, 13, 15-21, 24, 26, 28, 30-34, 36 and 38-44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dev et al. U.S. Patent 5,261,044 and Petty et al. U.S. Patent 6,546,263.

Referring to claims 1, 10, 19, 24, 33 and 42, Dev et al. teach a method and computer readable storage comprising defining metrics, each of the defined metrics corresponding to at least one entity in the dynamic data space, wherein each entity is a network component (providing a visual display of information relating to network entities, represented on the display

by icons) (Dev et al.: column 2, lines 46-64 and Figure 1) and characterizing the performance of the component in a content delivery network (providing indication, via icons, of the statuses of network entities of a computer network in a network management system) (Dev et al.: column 2, lines 46-64 and Figure 1); quantizing discrete levels for each of the metrics (each of the metrics, or icons, have a plurality of levels, or user selectable areas representing discrete parameters of the corresponding network entity) (Dev et al.: column 2, line 46 – column 3, line 14); assigning a unique indicator to each of the quantized discrete levels (each of the levels, or parameters of the displayed network entity icon has an associated unique indicator, or user-selectable area/section of the icon) (Dev et al.: column 2, line 46 – column 3, line 14); determining a value for each of the defined metrics and responsively determining the unique indicator corresponding to the value (for example, when predefined events occur in the network entities, alarms are generated and icons determined to be representative of the entities having an alarm are displayed , with the displayed icons having a plurality of user-selectable areas) (Dev et al.: column 3, lines 15-28); receiving a user selection of particular ones of the entities via a graphical user interface (user selection of an area of the icon) (Dev et al.: column 3, lines 15-28), and providing graphical display representations of the unique indicators associated with the selected entities within a graphical user interface of a machine remotely located from the at least one entity, the graphical interface changing to reflect changes to the selections (displaying icons representative of network entities, the icons displayed having a plurality of user-selectable areas representing entity parameters; as the users select different areas of the icon, the corresponding detailed information is provided on the display; the graphical user interface manages a remotely located network via receiving network information from the virtual network machines) (Dev et al.: column 2, line 46

– column 3, line 14, column 4, lines 1-33 and Figure 1). However, Dev et al. fail to explicitly teach defining a maximum and a minimum value for each of the metrics and that the quantized discrete levels are between the defined maximum and the defined minimum values. Petty et al. teach an interface displaying icons representing the statuses of operating parameters (Petty et al.: column 1, lines 38-46) similar to that of Dev et al. In addition, Petty et al. further teach defining a maximum and minimum value for each of the metrics (using the battery icon and signal strength icon for example, there is a maximum value of full charge and minimum value of not charged for the battery icon and similarly, for the signal strength icon, there is a maximum value of full signal strength and minimum value of unsatisfactory signal strength) (Petty et al.: column 4, lines 14-24 and 32-42); quantizing discrete levels between the defined maximum and the defined minimum value (discrete degrees of values for the icons; for example, for the battery status icon, there are discrete levels such as ¾ charge, ½ charge and ¼ charge) (Petty et al.: column 4, lines 14-24 and 32-42); assigning a unique indicator to each of the quantized discrete levels; determining a value for each of the defined metrics and responsively determining the unique indicator corresponding to the value (determining a display representing each of the levels of values of the icons and displaying the icons accordingly) (Petty et al.: column 4, lines 14-24 and column 7, lines 50-65); receiving a selection of particular ones of the entities via a graphical user interface, and providing graphical display representations of the unique indicators associated with the selected entities, the graphical interface changing to reflect changes to the selections (upon receiving status changes of the operating condition, the appropriate icon is selected by the GUI application and provided on the display) (Petty et al.: column 8, lines 40-67 and column 9, lines 1-20). This is further recited in column 12, lines 34-51. It would have been

obvious to one of ordinary skill in the art, having the teachings of Dev et al. and Petty et al. before him at the time the invention was made, to modify the network managing interface for displaying icons representative of network components taught by Dev et al. to include the plurality of displayed discrete levels between a defined maximum and minimum threshold of Petty et al. One would have been motivated to make such a combination in order to allow users to easily ascertain status information and see the degrees of a system parameter, thereby enabling users to gauge approximately how severe or urgent a parameter status is; for example, by displaying icons with discrete degrees of parameter values, users can easily determine whether a network component will run out of battery soon or whether a network component is about to lose connection signal, allowing them to take the appropriate actions as the demand occurs.

Referring to claims 3, 13, 21, 26, 36 and 44, Dev et al., as modified, teach the assigning step comprises designating a user configurable unique indicator selected from the group consisting of a different color, a different shade and a different pattern to each of the quantized discrete levels (Petty et al.: column 4, lines 32-42 and Figures 1A-1C).

Referring to claims 5 and 28, Dev et al., as modified, teach automatically updating the graphical display representations of the selected ones of the determined values in the graphical user interface (automatically updating the network information models as status information changes) (Dev et al.: column 5, lines 33-40 and column 7, lines 54-59).

Referring to claims 7, 17, 30 and 40, Dev et al., as modified, teach the selected ones of the metrics are selected from a list of metrics displayed within the graphical user interface (selecting a metric, or icon, from a list of metrics, or a plurality of displayed icons on the display)

(Dev et al.: column 2, lines 46-64, column 13, lines 30-66 and further shown in Figures 7A-7C and 8A-8C).

Referring to claims 8, 15, 31 and 38, Dev et al., as modified, teach updating the graphical representations dynamically based upon subsequent value determinations (updating the display of status icons to reflect changes to the operating conditions, such as changing battery power and signal strength) (Petty et al.: column 8, lines 40-67, column 9, lines 1-20 and column 12, lines 34-51).

Referring to claims 9, 18, 32 and 41, Dev et al., as modified, teach the step of determining the value and the providing step are configurably periodic (polling network devices periodically, at specified time intervals) (Dev et al.: column 6, lines 44-48, column 9, lines 42-50 and column 14, lines 60-63).

Referring to claims 11, 20, 34 and 43, Dev et al., as modified, teach the defined metrics are selected from the group consisting of CPU load, run queue size, memory usage, connections, and disk I/O usage (CPU load, run queue size, memory usage, connections and disk I/O usage are all status indicating performance parameters of a networked system and Dev et al. teach the displayed icons representing performance parameters indicating the statuses of network entities, as recited in column 3, lines 1-14 and Petty et al. teach the defined status indicating icons of network components could include icons indicating network connections, memory, or battery usage, etc., as recited in column 3, line 54 – column 4, line 59).

Referring to claims 16 and 39, Dev et al., as modified, teach providing a graphical representation of each one of the components, each one of the components represented by a node

in the graphical display (the components, or network entities of a computer network are graphically represented on the display by a node or icon) (Dev et al.: column 2, lines 46-64).

Referring to claim 46, Dev et al., as modified, teach the maximum and minimum values (using the battery icon and signal strength icon for example, there is a maximum value of full charge and minimum value of not charged for the battery icon and similarly, for the signal strength icon, there is a maximum value of full signal strength and minimum value of unsatisfactory signal strength) (Petty et al.: column 4, lines 14-24 and 32-42) are user configurable values (the interface of Dev et al. teach the ability for users to configure the network management display via selecting different components to view and editing model relations) (Dev. et al.: column 4, lines 34-57 and column 10, lines 21-40).

4. Claims 4, 14, 27 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dev et al. U.S. Patent 5,261,044 and Petty et al. U.S. Patent 6,546,263, as applied to claims 1,10, 24 and 33 above, and Jain et al. U.S. Patent 6,225,999.

Referring to claims 4, 14, 27 and 37, Dev et al. and Petty et al. teach all of the limitations as applied to claims 1, 10, 24 and 33 above. However, although Dev et al. and Petty et al. teach the step of determining the value comprises the steps of monitoring at least one entity and interrogating each entity within the dynamic data space for the determined value (monitoring the network with the virtual network machine which contains a software representation of the network being managed, the virtual network machine receives data from the network devices via a device communication manager) (Dev et al.: column 4, lines 2-33), they fail to explicitly teach performing the monitoring and interrogating with a software agent remotely located from a

machine upon which the graphical user interface resides. Jain et al. teach a user interface for displaying icons representing network components (Jain et al.: column 2, lines 41-61 and column 6, lines 24-44 and Figure 4) similar to that of Dev et al. and Petty et al. In addition, Jain et al. further teach software agents remotely located from a machine where the graphical user interface is displayed (agents at various nodes of the network report information to the management process on the managing station 16) (Jain et al.: column 4, line 17 – column 5, line 11 and column 7, lines 34-45 and Figure 2). It would have been obvious to one of ordinary skill in the art, having the teachings of Dev et al., Petty et al. and Jain et al. before him at the time the invention was made, to modify the management of network components taught by Dev et al. and Petty et al. to include the use of software agents to obtain and send information regarding network components of Jain et al. One would have been motivated to make such a combination in order to provide a low-impact and platform-independent software module that can perform local management tasks and protect their users from the complexity of computer and network operations.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. U.S. Patent 6,225,999 and Petty et al. U.S. Patent 6,546,263.

Referring to claim 23, Jain et al. teach a system comprising plurality of software agent for retrieving values for metrics from the components within a heterogeneous CDN (agents at various nodes of the network report information to the management process in the managing station) (Jain et al.: column 4, line 17 – column 5, line 11 and column 7, lines 34-45), a processor remotely located from the software agents for determining a user configurable graphical

representation for each of the retrieved values (the agent sends information to the remotely located managing process on the managing station 16) (Jain et al.: column 4, line 17 – column 5, line 11 and column 7, lines 34-45 and Figure 2), a graphical user interface of a machine remotely located from at least one of the components for presenting the determined graphical representation (providing a graphical user interface for displaying remotely located network components, such as routers and bridges, for display on a topological map) (Jain et al.: column 2, lines 41-61, column 4, lines 17-57 and Figure 1), the graphical user interface having a user-selectable list of the metrics, the graphical user interface changing to reflect changes to the selections (users can navigate through the topological map of network components to obtain a view of selected components and their connections on the GUI) (column 7, line 64 – column 8, line 37). However, Jain et al. fail to explicitly teach different graphical representations are determined for different quantized ranges of the retrieved values. Petty et al. teach an interface displaying icons representing the statuses of operating parameters (Petty et al.: column 1, lines 38-46) similar to that of Jain et al. In addition, Petty et al. further teach determining different graphical representations for different quantized ranges of the retrieved values (displaying discrete degrees of values for the icons; for example, for the battery status icon, there are discrete levels such as ¾ charge, ½ charge and ¼ charge) (Petty et al.: column 4, lines 14-24 and 32-42). This is further recited in column 12, lines 34-51. It would have been obvious to one of ordinary skill in the art, having the teachings of Jain et al. and Petty et al. before him at the time the invention was made, to modify the network managing interface for displaying icons representative of network components taught by Jain et al. to include the display of a plurality of quantized ranges of values of Petty et al. One would have been motivated to make such a

combination in order to allow users to easily ascertain status information and see the degrees of a system parameter, thereby enabling users to gauge approximately how severe or urgent a parameter status is; for example, by displaying icons with discrete degrees of parameter values, users can easily determine whether a network component will run out of battery soon or whether a network component is about to lose connection signal, allowing them to take the appropriate actions as the demand occurs.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 3-5, 7-11, 13-21, 23-24, 26-28, 30-34, 36-44 and 46 have been considered but are moot in view of the new ground(s) of rejection.

7. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach similar interfaces for managing network components.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ting Zhou whose telephone number is (571) 272-4058. The examiner can normally be reached on Monday - Friday 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached at (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-4058.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 February 2005

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173